

The

AUSTRALIAN MODEL RAILWAY ASSOCIATION" JOURNAL "

Vol. 4, No. 2

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THE AUSTRALIAN MODEL RAILWAY ASSOCIATION
Its Formation and Progress
by Tim. Dunlop.

Because so many members have joined our ranks in recent times, the Editor has requested that I prepare a kind of short precis of events leading up to and following the formation of AMRA. It must be borne in mind that to write an actual factual history of the birth and development of the Association to this date would already easily consume at least one hundred pages the size of this Journal. This, I feel, should be done, but as to who has the time, necessary skill and knowledge to carry out this monumental effort, I have no idea. Yet, unfortunately, the longer it is left, the more difficult it will become, human memory being what it is. However, be that as it may, in the following paragraphs I have attempted to give a necessarily brief picture of how the AMRA came into being, deriving the information from AMRA Minutes and Correspondence files, and to some extent from my own memory, and with the help of others who were intimately connected with those rather hectic days (and nights) that already seem so long ago.

The basic idea which eventually led to the formation of the Association in its existing form was crystallised by various comments in the "Fortnightly Notices" issued by Alan Goode in connection with his Hobson's Bay Railway, the first comment

being 'FN1268', in the issue dated 13/11/1950, in which Mr C. Buchanan asked which was the better scale to advocate for 'O' Gauge, as NSW modellers appeared to favour 7mm. scale to a greater degree (there you are, Pop Steward, does that make you smile?) whilst Victorians favoured 1/4" scale. In 'FN.1295' I advocated that standards be adopted before confusion reigned supreme, using one or the other of the existing American or British Standards, or alternatively, the drawing up of a complete set of our own, which appeared to me to be the wiser course to take, in view of the variety of gauges used by Australian full size railways, and the hotch-potch of model equipment available in Australia. Further comment appeared in 'F.N.'s 1314 and 1349', and finally the cat was out of the bag in 'F.N.1389'.

What actually happened in the period from the publication of the first 'F.N.' regarding standards was a spate of private correspondence between interested persons, mainly Bill Lowry, Ernie Dean and myself, and on my return to Melbourne early in 1951, informal talks on the subject of the formation of an Australian Standards organization were held with Bill and Ern, the first of these meetings being held on the 13th March, 1951, at Bill's home. It was there that the decision was made to attempt to form an Australian organization and to convene another meeting to be held on the 30th March, to which any interested model railway men would be invited. Unfortunately, we didn't publicise this too well, and only six turned up at the meeting, namely, Rick Richardson Bryan McClure, Doug. McFadden, Ernie Dean, Bill Lowry and myself. The idea was discussed at length, and it was eventually decided that a Standards Association should be a practicable possibility in Australia, and the formation of the as yet nameless association would be proceeded with immediately.

A further meeting was arranged for the 6th April

EDITORIAL

This is possibly the last regular Editorial which will grace - or, disgrace - these pages.

In future, there will be only one Frontispiece per Volume, that on the first page, on which will be displayed the Office Bearers, as in the past.

Numbering of pages each Volume will be consecutive and at the conclusion of a Volume an Index will be supplied to be inserted by the member at the commencement of the particular Volume.

It is thought the extra pages devoted to actual articles will be more appreciated by members, and the indexing and through numbering will make the Journal more convenient in use.

Ofcourse, if a deluge of protesting letters commences to come in this policy may have to be reversed, but as I have received only two letters in my fifteen months as Editor, I feel quite sure the tranquility of members will remain, as ever, quite unruffled.

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continuing:

THE AUSTRALIAN MODEL RAILWAY ASSOCIATION Its Formation and Progress -

at which Ernie Mainka and Andy Lyell (subsequently VMRS President for two years) were also present. Andy was sympathetic to our aims, and although regretting his inability to take an active part in the new Association, he became a foundation member, and is still a quiet supporter of AMRA. It was decided that prior to announcement of the Association a Constitution should be prepared and submitted for consideration to subsequent meetings to be held on 20th April, and 4th May, 1951, and in this Rick, who

collected the chore, did a terrific job, the Constitution he presented being written to incorporate as well as possible the often conflicting views and ideals expounded at the foregoing formative, (but still unofficial) meetings. It is interesting to reflect that despite minor early "sniping", surprisingly few amendments have been made to the Constitution since its adoption at the first official meeting of the Association on the 18th May, 1951.

Having fitted ourselves out with a lovely shiny new Constitution, the next move was to proceed with the election of Office-bearers and this was done, a job being found for all present. The first Office-bearers were Cliff Richardson as President, myself as Secretary, Bryan McClure as Assistant-secretary, Ernie Dean as Treasurer, Doug. McFadden as Assistant-Treasurer, Ernie Mainka as Editor, Bill Lowry as a Committeeman whilst Ernie Dean doubled-up as Publisher. This first "Election" was not without its humorous aspect, for rather obviously everyone took it in turn to propose the next in turn for a position, and it also had its serious side as eight members joined that first evening which meant £6/15/- in the kitty, plus donations which were received as well from those present. This was the sum total of "official" income we received for the next few months so members of the Committee had their hands in their respective pockets for one thing and another nearly all the time. Just in passing I might mention that I had to write up the Minutes, and that first set was really something, for it naturally included the Constitution, the whole job taking 17 foolscap pages. In addition to the Constitution, we decided that an emblem would be necessary, and Rick submitted a design to the meeting held on 23rd May, 1951, and another on the 1st June, and the second one, the now familiar wheel on a rail, was the one chosen. Main items of expense at this stage were the printing of letterhead paper (note paper) the cost of which was fully covered

by donations, printing of covers for the 'Journal' and Standard and Data Sheets, and the cost of duplicating 100 copies of the Constitution which cost us the then princely sum of £15.!

At a meeting on 1st June, it was decided that the AMRA would apply to the Australian Association of Model Societies to become a member of that body, and in the following August, AMRA became a member. The President appointed a Standards Committee of four on the 15th June, 1951, with myself as Chairman, and work was commenced immediately on the preparation of Standards. In addition to this, draft letters were prepared for reply to prospective members and to Model Railway Clubs and manufacturers seeking their support for the new Association. Teething troubles were many, but by dint of a lot of hard work, both in and out of Committee, we somehow managed to battle through. Around this time Harry Clark joined the Committee and helped to swell the number of workers, and did we work! One of the first steps taken by the Standards Committee was the preparation of a letter to the National Model Railroad Association of America, requesting their permission to use such of their Standards as were applicable in Australia, and this was despatched late in July. A reply was received some weeks later in which more information regarding the AMRA was requested and this was duly forwarded. The basic reason behind contacting the NMRA was for the eventual establishment of Universal Standards for working parts, for there was no necessity for us to use NMRA Standards as we could have gone ahead immediately and prepared our own from scratch. In those early days we concentrated only on Standards for 1-1/4" and 16.5mm gauges, and I might point out here that it has been the policy of the Association since its inception to avoid like the plague any attempt to draw the AMRA into the old perennial argument on scale, a subject about which each individual

must decide for himself.

At first, all meetings were held at Bill Lowry's home which was reasonably central for most Committee-men but this, we found, gave credence to the impression held in some quarters (though without foundation) that the AMRA was "Lowry's Association". In actual fact, Bill himself was responsible for most of the restrictions placed on professional members of the Association to ensure that it would always be controlled by amateur model railroaders. However, from 5th October 1951, the meetings were held for a time in the rear of Ern Mainka's shop in Fitzroy and at the first meeting at 269 Smith Street, Alan Houston came along, and has been on the Committee ever since. Eventually, the habit developed of holding the meetings in the homes of the respective Committee members, a practice that continues to the time of writing. It was decided also at this same meeting that AMRA would apply to become a member of the Standards Association of Australia, and this actually took place in November of that year. Membership of both the Australian Association of Model Societies and the Standards Association of Australia has subsequently proved to be of great value to AMRA.

During the months prior to Christmas, 1951, all known Australian manufacturers and leading modellers had been contacted by the Standards Committee, and requested to forward a list of their respective Standards which they had been using in the production of their products, for the following items:-

Wheels and axles, buffers and knuckle couplers, axleguards and/or bogie sides, with track-gauge and flangeways, as well.

All those approached forwarded the requested information and the Standards Committee then proceeded to compile a sheet showing all dimensions for the main working parts as listed above, in an attempt to arrive at a mutually agreeable set of dimensions for adoption as Australian Standards. Just prior to this, we had

received a copy from the British Railway Modelling Standards Bureau of a booklet setting out all their Standards and these, as well as NMRA Standards, were included in the sheet referred to previously. This sheet was eventually completed and copies forwarded to all interested parties for their comment, criticism and approval. It was encouraging to note that all concerned advised us that they approved of the proposed Standards, and would adhere to them when production runs and die replacement permitted.

In view of the then approaching Models Exhibition in September 1952, a considerable amount of time was spent discussing, planning and eventually building a suitable stand for the AMRA Exhibit, and during the ensuing months, the preparation of this stand was the main consumer of our time as it was felt that here was our first opportunity to display the AMRA before the general public. As soon as the AAMS had decided on the date of their Exhibition a Sub-committee was formed to decide details of the AMRA display, and at the first meeting, held on 13th October, 1951, a list of the main features was prepared, together with general dimensions of the stand. Committee man Harry Clark offered to arrange for the timber and prefabricating of the framework of the stand itself, and of course, this offer was accepted with gratitude, but it was unfortunate that the arrangements with regard to this offer were disorganised through a letter going astray in the mail and the Committee received no word from Harry as to the progress of the stand. This became a bit worrying as the time of the Exhibition approached, and as Harry was in the Army and difficult to contact for long periods we had perforce to set to and build a stand ourselves. Past-president Mayer Levy joined the Committee on the 14th December, 1951, just in time to help with the work on the stand.

Considerable financial assistance had been

given the Association by Australian Modelcraft, of Albury, Bill Lowry of BPR and Ern Mainka of the now defunct Main Hobby Depot, and whilst the Constitution lays down the law with a firm hand regarding "professionals", without doubt the assistance that has been and still is given the AMRA by our "professional" members has helped it to develop to the point it has reached today. As a gesture of appreciation, the AMRA offered a series of small display stands, forming part of the main display, to all professional members for their use at the Exhibition, and there is little doubt that the combination of the two - professional displays showing just about all the parts obtainable in this country, and the completed models built from them by amateurs, demonstrated to the general public (all 94,000 of them) just what the hobby is like and what is involved in model railroading.

By Christmas 1951, the membership had grown to just over fifty, nearly all of these members joining through the efforts of Bill Lowry, and although naturally enough the great majority of these members were Victorians, the number of Interstate members was encouraging. Despite the number of members, the Association was not too financial around this time, and we ran "in the red" for some months until end of year subscriptions came in.

By the end of June 1952, the proposed Standards had been prepared by the Standards Committee, and tabled before the Management Committee for approval. After some discussion they were slightly revised, and in this latter form were approved for publication to the general membership as Provisional Standards. It is with no little pride that I point out that the AMRA was the first organization in the world to produce Standards for Stud Contact, and these are in fact the Standards used by Alan Goods on his huge and justly famous '0' gauge Hobson's Bay Railway, and the Association will always be grateful to Alan for his

ready assistance in providing and checking the dimensions which are now Australian Stud Contact Standards. Due to the amount of time consumed in arranging all the various details connected with the Exhibition Stand, the Standards were not proceeded with as quickly as we would have liked, but the Committee of Management gave their final approval on all Sheets on the 22nd August, 1952, and copies were roneod for distribution to members as Provisional Standards, and after approval, they were to be printed and issued in permanent form. This has been deferred for the time being, pending the results of negotiations with the British, American and Continental Standards Associations for adoption of Universal Standards, for the advantages of such a step can readily be appreciated by all thinking railway modellers and enthusiasts who purchase "ready to roll" equipment.

Due to pressure of business, Ern Mainka tendered his resignation from the Committee of Management on 28th March, 1952, and Bill Lowry did the same on the 1st June. This was a loss of no small order for the Committee of Management was now reduced to seven members, but things were managed somehow, with the stand taking up most of the available time. On the 6th June Harry Clark tendered his resignation from the Committee of Management owing to his military duties and created pandemonium in the Committee by advising, per mail, that the stand was progressing satisfactorily. We were, of course, in the throes of building another stand, but eventually decided that as construction had progressed so far, and "our" stand was in Melbourne, we had better continue with it. I often wonder what Harry privately thought when advised to this effect even though the duplication of effort was just bad luck and really no one's fault. By the end of June, 1952 the stand was well on the way to completion, the work being carried out at week-ends

in Alan Houston's home - in the lounge room - What a man - What a WIFE!!!! The mess we made had to be seen to be believed.

Geoff Lormer attended a Committee meeting on the 27th June, 1952, and we convinced him he would be doing a good job if he would come along to future meetings, which he did and has proved a tower of strength since joining the Committee. From this date on, the Committee of Management was fully occupied in arranging the various details for the fast approaching Exhibition. The jobs that had to be done were many and varied - models to be obtained from members, displays from our "professional" members, valuations for insurance purposes, (this one was a real headache) but everything was managed on time, more or less, a great deal of help being obtained from the newer members of the Committee, Dave Gross and Ray Perrey, who attended their first Committee meeting on 8th August, 1952, along with Ray Pearson. Despite our "Exhibitionitis" some amount of work was carried out on the Provisional Standards, printing costs and method of distribution being our main worries, but as the Exhibition was now so close there was not the time available to do over-much about the issue of the Standard Sheets. Dave Gross, Ray Perrey and Nev. Levin were appointed to the Committee in an official capacity at the meeting held on 22nd August, 1952, Dave becoming the Asst-secretary at the following meeting as Doug. McFadden was unable to carry on, having enlisted in the RAAF. At this same meeting Dave Gross suggested that it would be advantageous to have the "Wheel-on-Rail" Emblem of the Association registered as a Standardisation Trade Mark, and this was subsequently done, full details being given at the time in Dave's statement on Page 12 of the November, 1952, Journal.

The Committee meeting held on 17th October, 1952, was most memorable for quite a few people; Russ Siddall, the Victorian NMRA representative attended the

meeting along with Jack Chaplin and Fred Youie, both of whom accepted positions on the Committee. Rick Richardson tendered his resignation as President, after 18 months very solid work, and Mayer Levy took over for the remainder of the term. After the meeting, I volunteered to drive Alan Houston and Rick to their respective homes and was unlucky enough on the way to become involved in an accident which put me out of action for some weeks, and the car for 12 months. I was knocked out completely, as was Alan, and Rick thought I was done for when he saw my "brains" spattered all over the road; later it was discovered that of all places in Melbourne on which to thump my head I had picked on a discarded ice-cream, which in the dim street light looked, according to Rick, like addled grey-matter. After a session in hospital I managed once more to take an active part in AMRA doings and at a Committee meeting about this time it was decided to call a General Meeting of members, the date being fixed for the 28th November, 1952. Arising from this meeting, the proposal was put forward by Ray Pearson that a Victorian Branch be formed, and this was tentatively fixed for the 28th February, 1953, and did take place on that date.

Prior to this, the Committee of Management, anticipating that a Branch was likely to be formed, drew up a special set of Rules governing the running of this and all subsequent Branches and Sub-branches that may be formed in the future. These Branches are nominally under the control of an Organising Chairman who is elected by the Branch members themselves from their own ranks. I believe Rick Richardson is to this day rather hazy as to how he got himself embroiled in the Victorian State Branch, although he suspects Mayer Levy and Ray Pearson as arch-conspirators. He also claims he heard me chuckle as he walked forward after election to take over the first meeting, although I don't

recall even sniggering to myself. (Much!)

Jack May attended his first Committee meeting on the 21st November, 1952, and was appointed to the Committee on the 5th December, 1952. Bryan McClure and Doug McFadden had tendered their resignations from the Committee of Management, and this left the Committee rather low in numbers, so various members were contacted regarding their willingness to serve on it, and those interested were appointed on the 16th January, 1953, as follows:-

Geoff Lormer as Vice-president, Dave Gross as Asst-secretary, Howard Groome as Asst-Treasurer, and as Committee-men the following members were appointed - Herb Tisher, Jack Chaplin, Jack McLean-Fox, Dave Bennett and Fred Youie. I am unable to find any record of the exact date that Jack May took over as Editor, but I think it was the same night that he was made a member of the Committee of Management. This brings us up to early 1953, in the next instalment I will detail events in 1953 to the present.

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On Sunday, 11th April, I had the pleasure of being entertained by Reg and Mrs Stringer, their family and local model railway friends Eric and Mrs Grimes, at Tulloch Hill, Mickleham. I went for the afternoon to write up Reg's system for the Journal and finally left late that night, having to mention myself that my last train looked like leaving before the last one for the night on the T.H.R.! and so we reluctantly set off in the gathering fog, for Essendon.

As is the case on a large system building, a lot has been done and a lot remains to be done, but now that Reg has such an enthusiastic team with him things are really moving. His control panel which he brought in for members' inspection at the last Vic. Branch night on 23rd April will be the subject of a full article in a later Journal.

THE TULLOCH HILL RAILWAYby Reg Stringer - as told to Jack May.

The basic desire in this railway, which was actually commenced about four and a half years ago, is to create a system worthy of the space available and to provide sufficient points of operational interest to keep a number of operators busy over its entire length. This does not mean, however, that a lot of operators will be necessary to get any running. It is intended to have as many branch lines, wayside stations, industries, etc., as can reasonably be fitted in for both passenger and freight movements. When sufficient track is ready to warrant it, it is proposed to try to arrange to have Running Nights and/or weekends with visiting members who would be more or less expected to bring something of their own to run and help make up extra trains and take part generally.

The area available is the full area in the roof over my service shed which, allowing for the inevitable loss due to the pitch of the rafters, is approximately 100' x 25'. The system is '0' gauge, 1/4" scale, stud contact, 12v. D.C. I am, as yet, undecided about the ultimate power supply, one suggestion being to drop down a pair of leads to the 12v. battery of the car parked beneath, and whilst operating, to float a rectifier across. This system would provide unlimited amperage at all times for the heaviest traffic, but the one outstanding disadvantage is obviously that the car may be needed right in the middle of a 'session' in which case recourse would have to be taken to the limited output of the rectifier alone. The other scheme is to have multiple rectifiers to serve specific areas which source of power is 'on tap' on the instant at the flick of a switch whereas batteries, if used separately from the car would require servicing right through those periods when my business here

makes it impossible for me to operate trains for weeks at a time. As can be seen from the plan - I dislike the term 'layout', it sounds too much like the mortuary business - the main passenger area at Aikenhead consists of 7 tracks with 2 island platforms, one each 12' x 7-1/2" between tracks 1 and 2, and 4 and 5 on an area, including throat of 18' x 3', originating on the Northern side of the Station, i.e., towards the stock sidings on the diversion loop at Gusty Gulch, so named for the gusts that charge up the ventilation shaft beneath the benchwork here on North-wind days. Gusty Gulch will also have one island passenger platform.

The Main line along the North side ex Aikenhead along its entire length to the East end of the building and the Gusty Gulch secondary Main line loop - actually a busy stock route but also an alternative route for passenger and freight in the event of blockage in the Aikenhead district - is single track, with the junction into double tracks taking place as the line swings around the East end on its way back via the South side to the junction with the freight yards which will be sited opposite the Aikenhead passenger area area, only on the South side. Aikenhead will have no freight facilities, barring mails and milk. It is intended to have a large fleet of railmotors of the Walker diesel type to handle local intermediate passenger traffic, and because of this, certain tracks in the Aikenhead area will be prohibited to Mainline trains, and coaching stock, and Regulations will be promulgated to this effect. It is also intended to institute grading for Certificates of Efficiency (or Proficiency) and one of the heaviest penalties will be imposed in the form of demerits for operators routing mainline trains onto these 'diesel only' tracks. This Certificate scheme is being introduced to foster keenness in the operators and to eliminate as far as possible negligent driving and operating generally.

The system could be run by one person in full

control or by local Stationmasters. At present the method of control will be through one Controller on panel at Aikenhead, right at station area, the balance of system, as it is developed, through a second smaller panel in the centre of the Western area adjacent to the Aikenhead panel.

All switchboards will be capable of being locked to allow operation by one Controller. Control of the goods area points, barring those actually on to the Mainline itself (controlled by the second panel) will be by push-pull manual plungers after the style of organ stops, each stop being located directly opposite the point it controls so that there will be no need of any form of key or track plan with which to familiarise one's self. Operators will simply sit on stools with non-swivel casters so that they can move themselves up and down their particular section of bench at a push of the foot. Dowelling handles the full length of the bench will be connected to the rheostats controlling the trains in the goods area so that the operator, by a twist of the wrist, can easily control his engine and follow it along the bench whilst comfortably installed on his 'driver's' seat. Why tire yourself out dodging about on your feet for hours when you can do it in comfort instead?

Once decided upon this Yard should be installed in quick-smart style as there will be no wiring of point-motors, or any control of this nature. The Yard will be divided into two or more arrival and departure areas, one operator on each breaking down or making up trains.

Every rheostat on the system will be of the same value and calibrated identically so that a train can be dispatched on - say, value '4' - with its corresponding speed, and the train will be handed on to the next section controller who will have

been notified by bell system to set his accepting controller at the same value, thus a train will pass from one section to the next with no apparent change in speed setting.

Communication between Control and Stations or Station to Station will be bell or gong system, no 'phones will be installed. Point motors will operate indicator lights on Control panels, and track current, besides switching points. Idea of switching track current is for safe-working of trains approaching points on the trailing side as with the Fleet point motors proposed, a train cannot 'spring' open an incorrectly set point from the trailing side, hence the risk of derailment.

Rolling stock operating at this date:

2 - 'AW' cars, 2 - 'BT' cars and 'C' van,
'M', 'GZ', 'GY', 'U', 'TE' (for eggs), 'NN',
2 - 'Q's', 4 - 4wheel freelance tankers (tar),
and 'Z' van.

Building:

4 - 'I's', 3 - 'NN's', '36AEJ car, 'AJ' car and baggage car, 2 - 'AS' cars, whilst as a change of interest a diesel-hauled 16.5mm logging road, with 6 logging wagons, is building besides. This is Gavin's road, and expects good haulage to the Mainline

PERSONNEL ON THE T.H.R.

Chief Commissioner: Reg Stringer

Asst. Commrs: Eric Grimes Gavan Stringer

Consultg. Elect. Engs: Colin L. Steele, A.M.I.E. (Aust).

Sprtn. Paintg. & Finishg. Shops: Evelyn Grimes

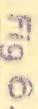
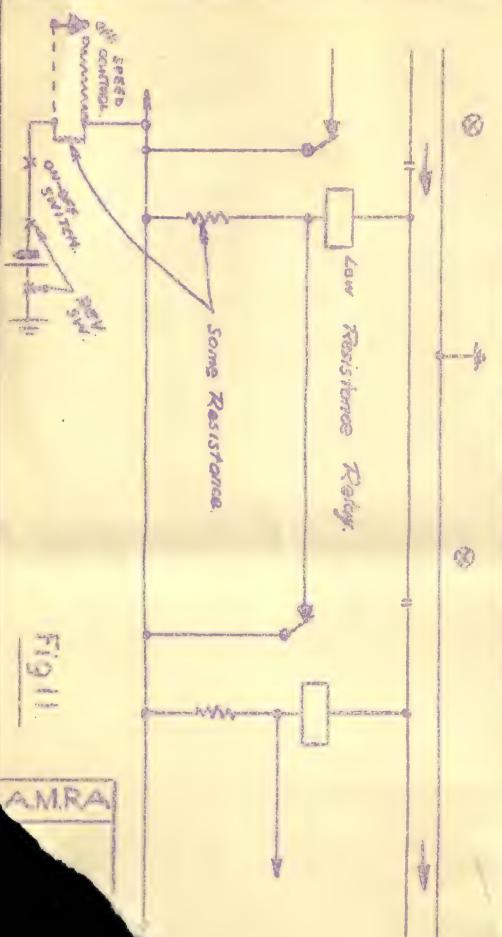
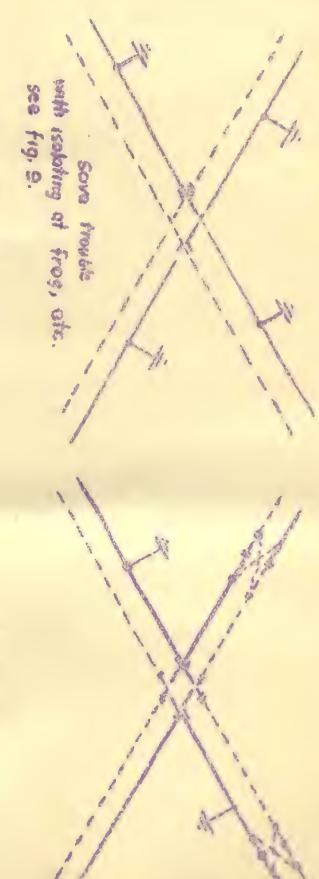
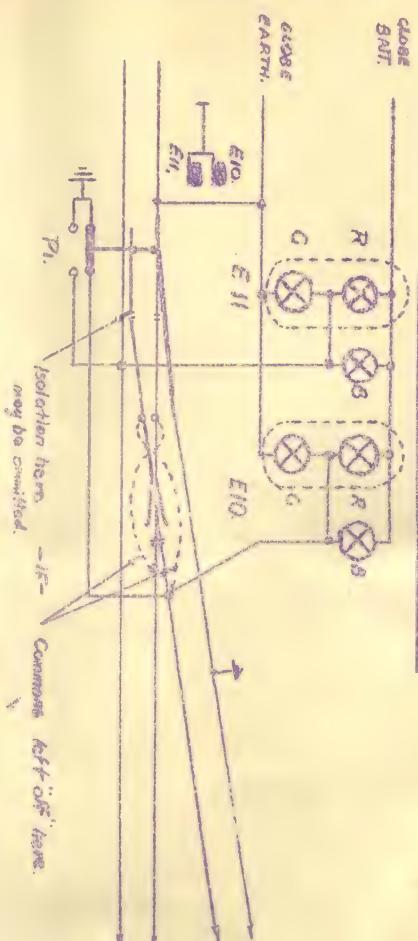
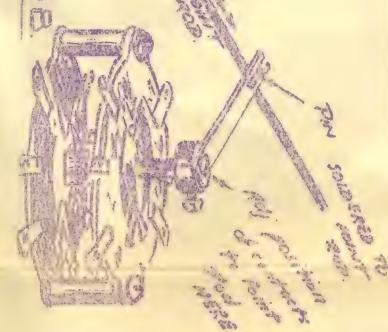
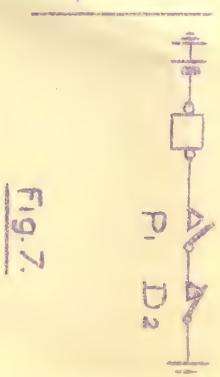
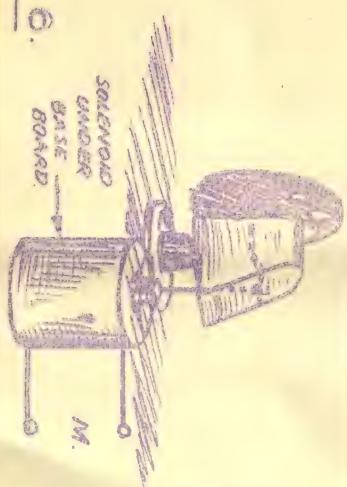
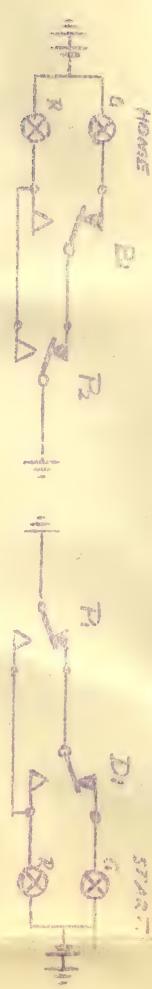
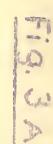
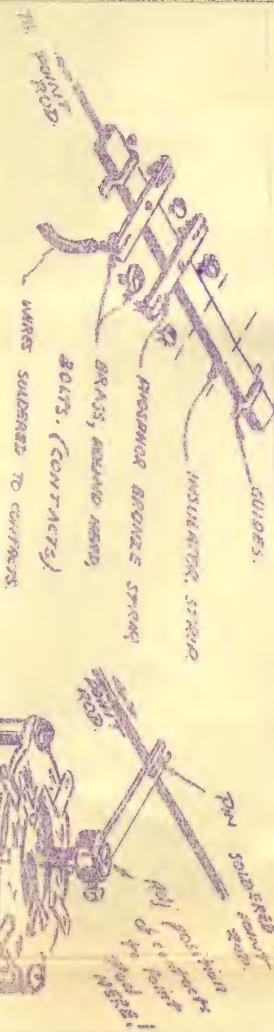
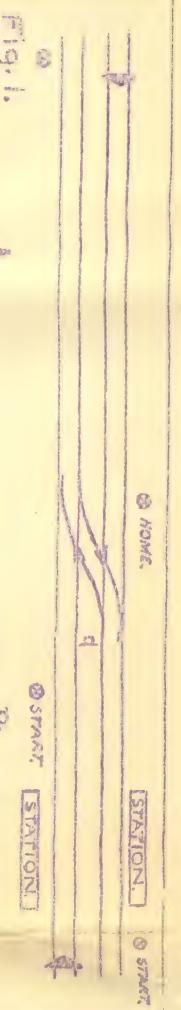
Sprtn. Ways & Works-Constn. Brnch: Ken Gillespie

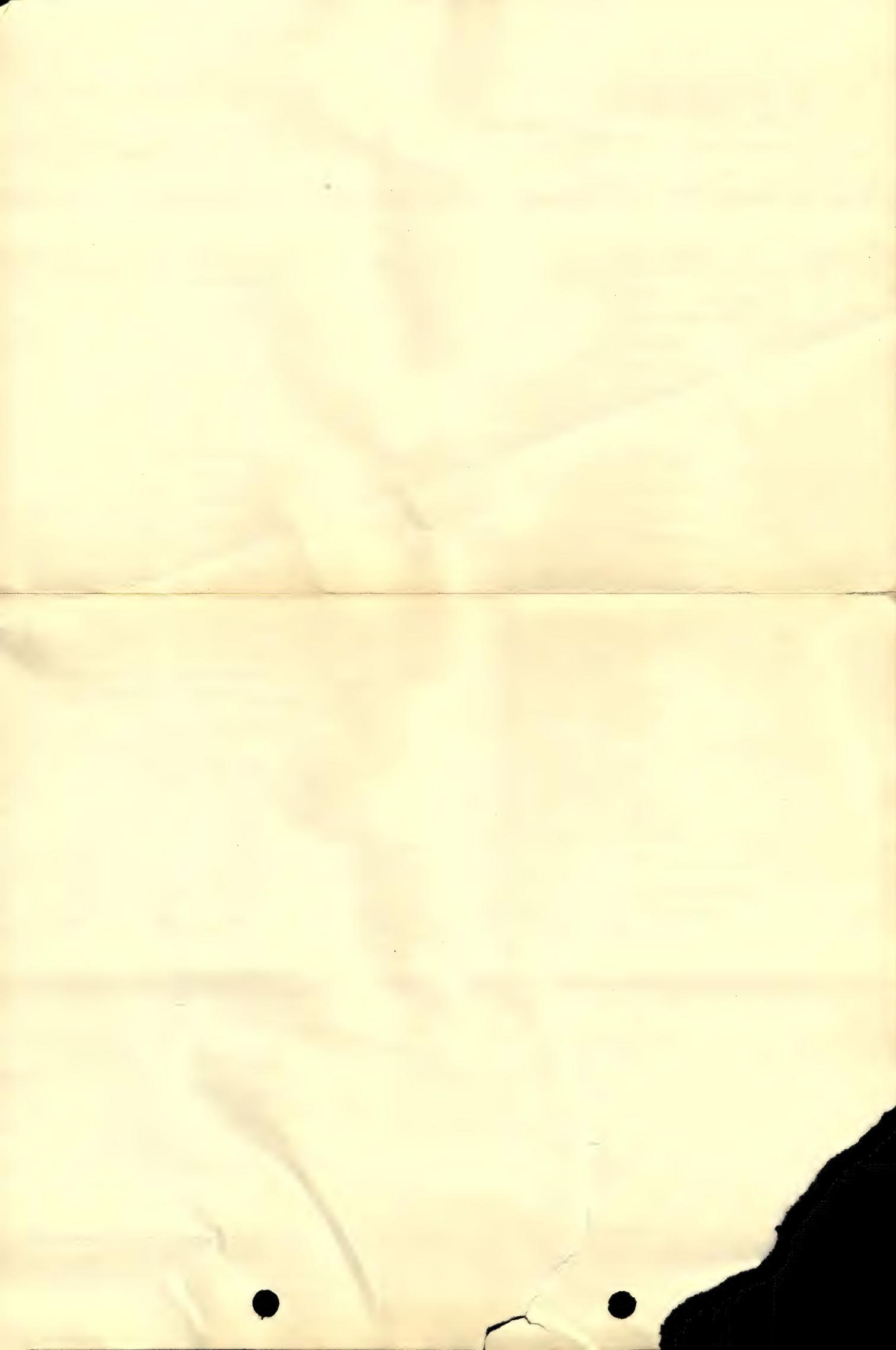
Sprtn. Rolling Stock Constn: Gavan Stringer

Engr-in-Charge-Reprs. & Maint. Rollg. Stock: Ian Stringer

Designing Engrs: All Staff in collaboration.

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AYOUT NO. 5

"O" GAUGE

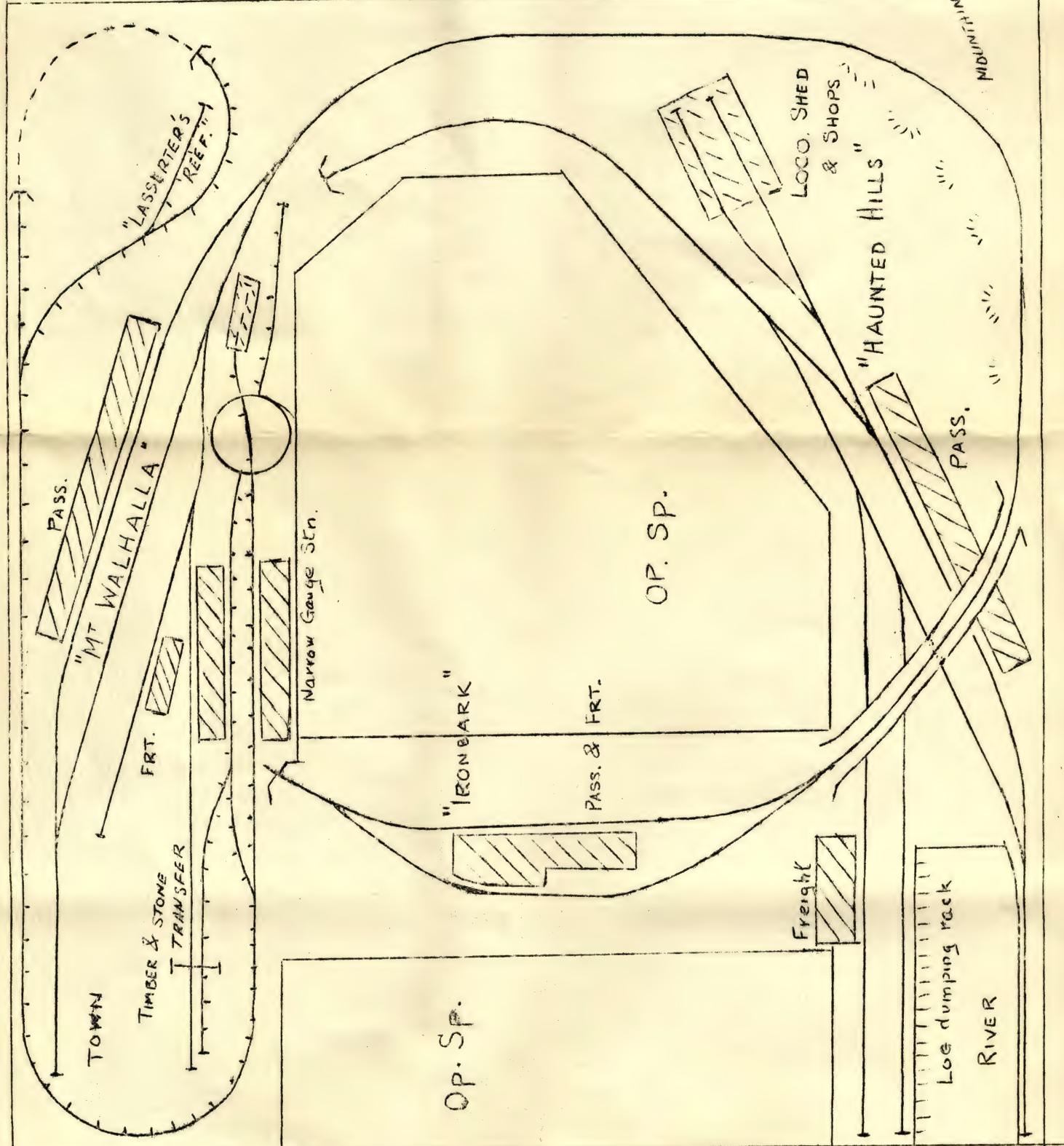
"THE CROOKED CREEK RLY.
(Standard Gauge)

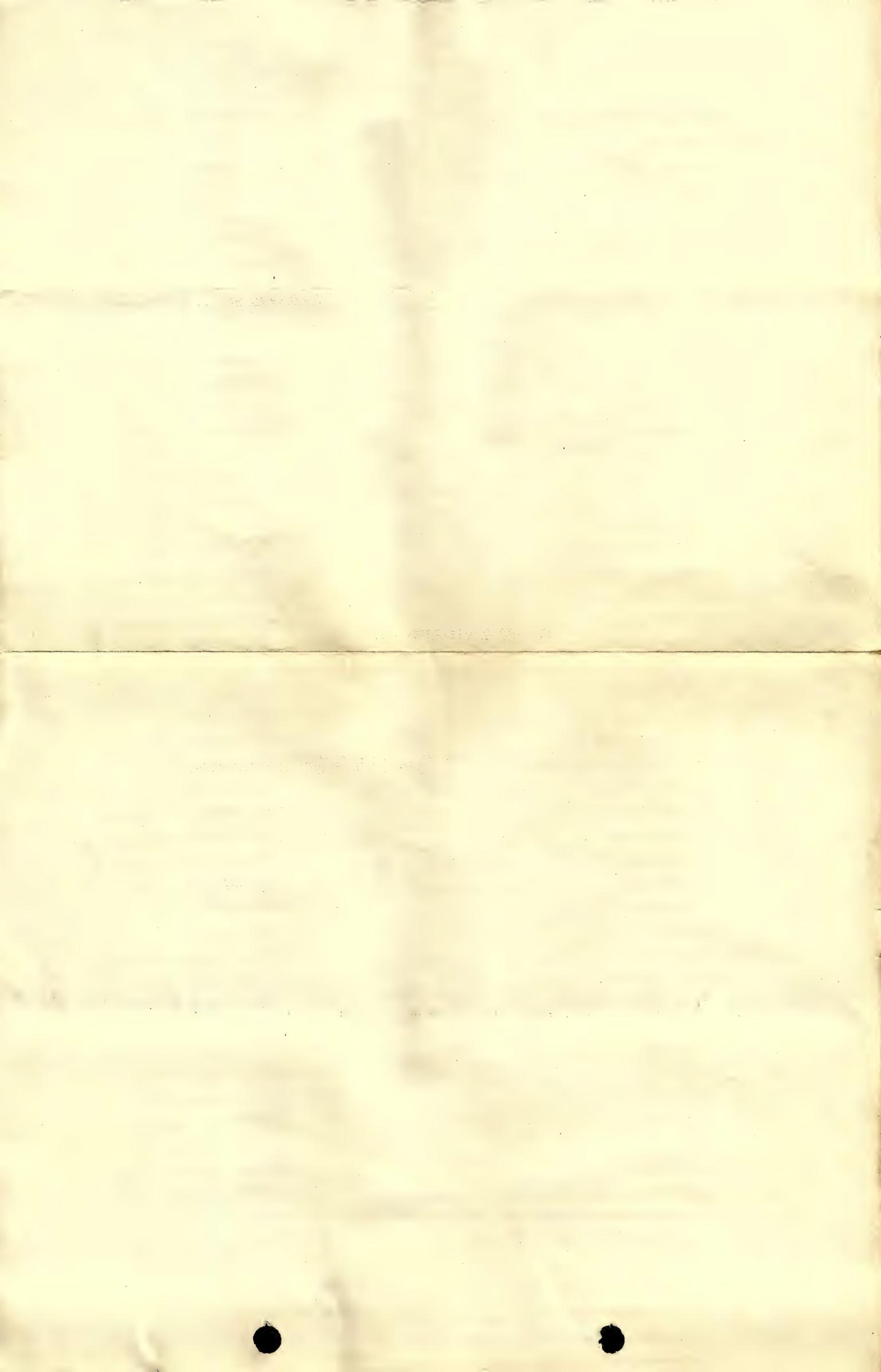
20' TRACK, 3' RAD Curves,
4% Grades, 12 Turnouts

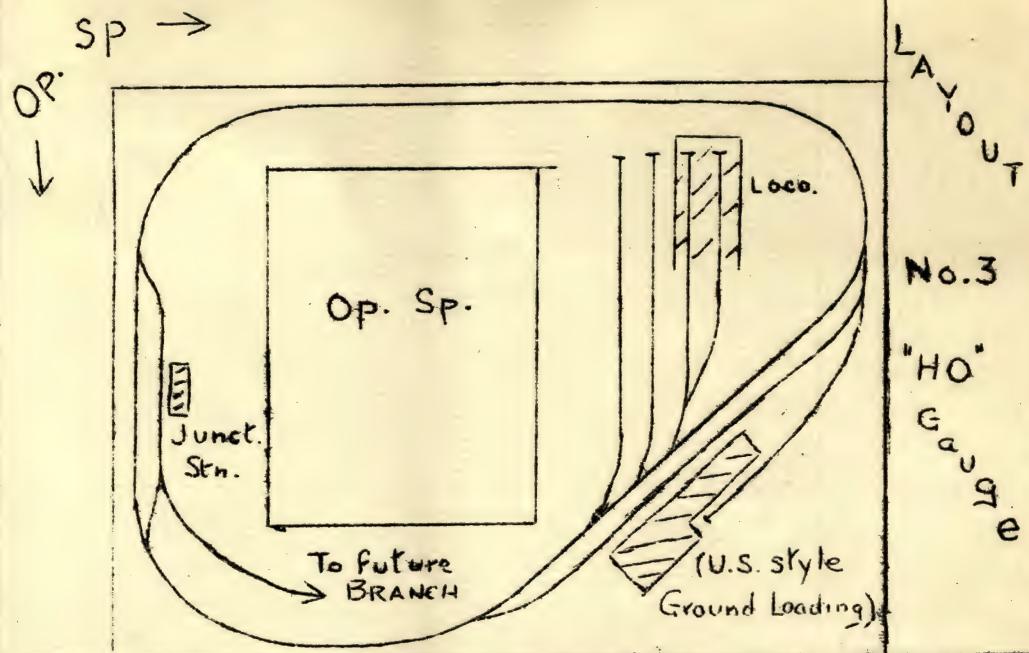
"MT. WALHALLA TIMBER
& TRAILWAY CO.
(Narrow Gauge)

30' TRACK 4% Grades
5 Turnouts.

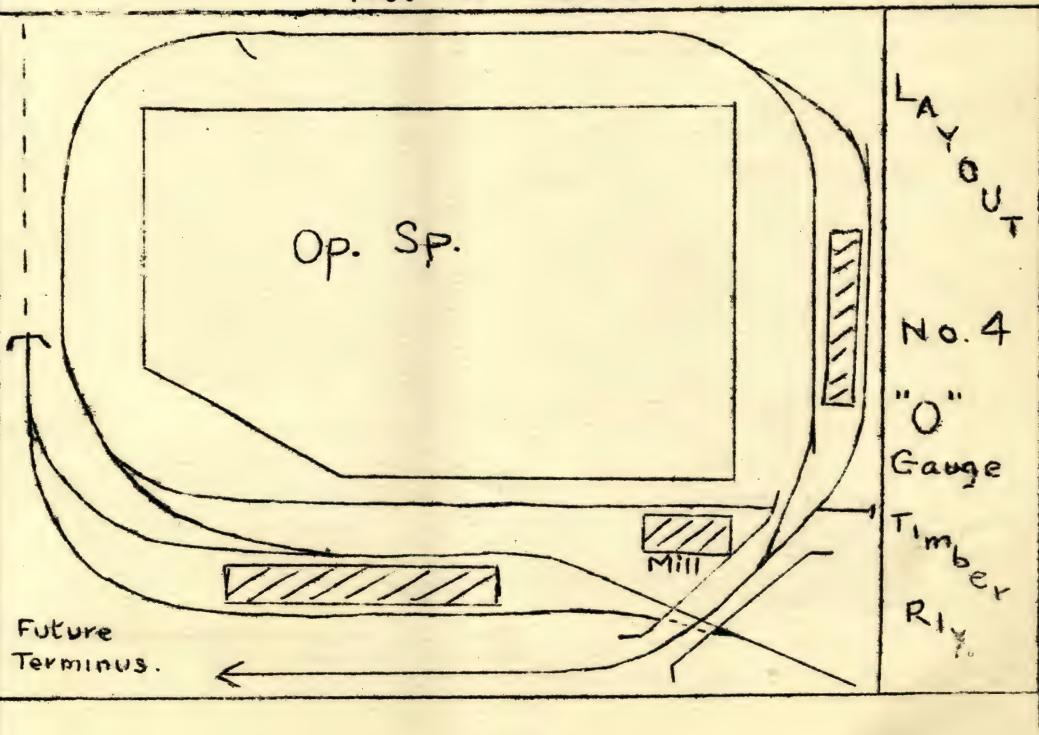
NOT TO SCALE







Not to Scale



LA
Y
O
U
T
No. 1

Tin
Pla
te

Operating Space

Deck

Not to Scale

Op. Sp.

QUARRY

Op. Sp.

PASS.

FRT.

Loco.

DOCK

LA
Y
O
U
T

No. 2

Narrow Gauge

SIGNALLING AND SIGNAL CIRCUITS

- TRACK CIRCUITS FOR CROSSOVERS, ETC.

by N. Levin.

(continued from page 13, November, 1953 issue)

Now for those chaps who wish to have auto signalling at crossovers.

Fig.1. We have two parallel tracks with traffic moving in the direction of the arrows. This may be a main terminal or a through country terminal i.e., some trains go through to other stations, and others stop or return.

Fig.2. This shows the rails sectionalized, and contacts added to the points. Now these contacts at the points operate as the points change, and if you look at mainline points in our auto suburban system you will see a metal box sitting on the sleepers, opposite the point blades. This box contains contacts for relay switching. Naturally in ours we cannot make our contacts so small so we disguise them (such as putting them under the bench). I have found the easiest way to arrange the contacts is by attaching them to the point rod, so whether you use solenoids or hand operated points, the operation of the contacts is assured.

Figs.3 and 3a show how these contacts 'banks' are made and attached.

Figs.4 and 5 show the Signal Circuits. The letters of contacts show the contact as labelled on Figure 2.

Naturally with this crossover, when we operate Point 1 (P1) we want to operate P2 so we can tie these two point blades together and operate them from the one motor or lever. This means that the

contacts on P2 can be on the same mounting as P1. Thus we find it very easy to use the Oak or Yaxley type switch as in 3b.

The Dwarf Signal may be magnetically operated as in Fig.6. Fig. 7 shows circuit for Dwarf Signal.

Please Remember - At the beginning I mentioned choose one rail for Earth and one for Signalling, but this may be changed where required, as for example in a diamond crossing. Fig.8 shows position, and Fig.9 shows How to change over.

Another thing to remember is - isolate all point blades from the point rails enlarged in Fig.10. If you study Fig.5 in November issue you will see that when point blade is not isolated and is thrown to branch the ground applied on point contacts is as on the through track which will appear on the branch line and so operate the branch line signal. This difficulty is overcome with isolated blades.

By the way, please correct leads to point contacts in Fig.5, August issue, and re-drawn in Nov. issue, Fig.10.

For those using 2-rail, a track circuit is shown in Figure 11.

This circuit works on the principle that there is always a small flow of current in the battery feed when the controller is off.

Where a train is on the section ahead the relay opens the contacts which remove the short from a resistor which allows the relay to operate on a small current but not enough to drive the train. With two-rail, however, using this scheme a relay has to be provided for every signal. I hope you chaps can follow these articles and make your layout more realistic

FIVE MODEL RAILWAYS or 'LIVE AND LEARN' by R. B. Gutteridge.

Over the last 10 years I have built quite a few layouts, so a short description of each, and their drawbacks and mistakes, may be helpful.

My first layout was the usual tinplate outfit on the usual oval of tinplate track. Then came Lionel trains! and solid brass track which however was over scale for Gauge 1 but suited tinplate flanges - but the layout was still tinplate, so we pass onto layout number two.

This layout was originally started in 'HO' using Trix and vehicles, but the only track available was A.B.C. '702' section, which is over scale for Gauge 'O', so after reading a very persuasive article by one R.E. Tustin in the 'Model Railway News' we decided to convert the 'Trix' stock to Narrow Ga. Track was laid and various pieces of equipment were constructed, but the weakness of the layout became apparent as soon as running started. The central island between the two operating wells was a definite nuisance to say the least and trains tended to run between the first two stations and few made the whole journey.

So from layout number two the following lessons emerged:

(1) All track should be sufficiently close to the operator to allow him to reach it without climbing over or leaning out over scenery.

(2) There should be only one operating well or if there is to be more than one there should not be too much bending under scenery, etc. - this does not include wells required to get to seldom used parts of the layout, but even these should be readily accessible.

(3) Don't go in for narrow gauge or other novel varieties of layouts unless you are willing to build everything, or anyhow, most things, yourself, and are prepared to accept a limited range of prototypes from which to model.

About this time the first 'Peco' track came on the market so some was purchased. The 'Trix' wheels were swapped for ones nearer scale and we prepared to try 'HO'. Elaborate plans were prepared for a main-line section from which a branch line would wind up into the mountains to a mining area.. This layout was started, but I was living away from home at the University at this stage and the line languished - so we learnt lesson number four, - don't try to do everything; estimate what you can do, and which you can afford and get that done - a small working layout is far better than a big one that doesn't!

During the first "All Models Exhibition" at the Exhibition building I was helping at the VMRS stand and I was greatly impressed by the performance and the solidness of the 'O' ga. models as compared with my own 'HO' stock at home. By then, Bill Lowry's 'O' gauge parts were freely available, and "Hobby Den" of Auburn were manufacturing a very nice line of 'O' ga. locomotives, so the obvious happened - all my tin-plate and 'HO' trains were sold, and a Mogul (2-6-0) loco. was ordered from the latter firm. Later, another similar loco. was acquired and these now form the background of my loco stud.

Now the big problem arose - how to fit any sort of 'O' ga. layout into a 12' square room - theoretically an impossible situation. First plans allowed for a plain loop, then a twice-around continuous layout and finally, we hit on the plan which has formed the basis of my last two layouts. A simple logging branch with an upper terminus where the logs are loaded, a passing-loop halfway, and a junction with the

mainline where cars are interchanged; this type of line gives an excuse for old and unconventional motive power, short trains, sharp curves, steep grades and even poor track. (Tch! Tch!!)

The first layout was built with '702' brass rail and used stud contact. For Pete's sake, if you use studs, test 'em before with a magnet - because I didn't and I used brass-coated and not solid brass tacks. After the brass coat is rubbed off the tacks rust, and rust is not a good electrical conductor; cleaning studs is a most disheartening job I can assure you. This layout was used for about a year but its upper terminus just didn't get built. It was reasonably satisfactory but had definite weaknesses. The design of the junction station was poor - it had no locomotive facilities and siding space was very cramped, whilst trains coming in from the branchline had to do much reversing to allow the loco. to run around its train and to distribute the various cars in the sidings.

The stud contact pick-up appeared to cut down the weight of the locos which was available for adhesion and this caused slipping and loss of power especially at turn-outs where the plate was depressed against its spring - this may have been due to poor design of collector shoes. Also, rail and sleepers were oversize, and this was accentuated by the confined layout.

So we come to layout number five, the last and the best to date. Several principles were observed in this design:

Firstly, all track was placed near the edge of a central operating space, and is readily accessible.

Secondly, all turnaround loops and areas where most shunting occurs are well to the front and not hidden behind storage tracks as often

occurs. Thirdly, siding space is as great as possible without crowding, and adequate loco. facilities were provided.

The line was designed with the basic logging theme in mind, but provision was made for a narrow gauge timber tramway to feed timber into the upper terminus, and a lake at the lower terminus so that logs can be dumped into the water to be floated to downstream mills.

All turnouts were built before any other track was laid as I detest building these and so I thought I'd get them over with. All sleepers and granulated cork ballast were glued to masonite strips which were fitted into position so that track arrangements could be tried out before final laying was commenced.

All standard gauge track is now laid and scenery is under weigh - mainly cowhair felt painted green, but trees are presenting a problem here, does anyone know a cheap, easy way to make forests? There are a few bugs still to be tracked down and eliminated on the standard gauge section. The narrow gauge section is progressing slowly. Curiously enough the line does not seem cramped as the limited size of the room is forgotten as the trains pant up terrible grades and squeal around short radius curves - it's taken a lot of time and work, but the brass hat is having a lot of fun running trains.

Thanks a lot, Dick. Beginners will realize from this article that a lot of building and dismantling lies ahead of them as they 'feel their way' towards the layout that will finally express their own ideas of a model railroad. We will be only too happy to publish other chaps' efforts in model railroad building for the guidance and help of others. - Ed.